<u>**AMENDMENTS TO THE CLAIMS**</u>

1.   (Canceled)

2.   (Canceled)

3.   (Canceled)

4.   (Canceled)

5.   (Currently Amended) <u>A method for motion estimation comprising:</u>

<u>   saving motion vectors, MVs of a partial or an entire frame of at least</u>

<u>one frame into a storage device for the best match macroblock searching of</u>

<u>the current or the neighboring frames; and</u>

<u>   calculating   the motion vector, MV, of a macroblock within a frame by</u>

<u>firstly searching a corresponding or the neighboring macroblocks of the current</u>

<u>or at least one neighboring frame,</u>

<u>   wherein estimating the MV of at least two macroblocks within a frame,</u>

<u>and identifying the majority MV as the frame motion vector, FMV, and</u>

~~The method of claim 3,~~ wherein the FMV is re-estimated when the

number of macroblocks having different MV from the FMV reaches a

predetermined value.

6.   (Canceled)

7.   (Canceled)

8.   (Canceled)

9.   (Canceled)

10.   (Canceled)

11.   (Currently Amended) A method of motion estimation,
comprising:

applying the adaptively predetermined values of the MV, the MAD or
the block differences to determine the sub-sampling ratio, or to decide a refiner
or a coarser pixel resolution, or to decide the prediction mode of the initial point
of searching or to decide whether to skip block, or to decide whether to early
select or to early give up the current macroblock,

wherein the sub-sampled pixels are applied to the calculations of the

MAD, MV, FMV or block differences for the motion estimation, and

~~The method of claim 9,~~ wherein a lower sub-sampling ratio is applied

to the motion estimation of macroblocks with the edge or close to the edge of

an object or macroblock with wider variance range of pixel values while the

higher sub-sampling ratio is applied to the motion estimation of macroblocks

with smaller MV or narrower variance range of pixel values.

12.   (Canceled)

13.   (Canceled)

14.   (Canceled)

15.   (Currently Amended) A method of motion estimation,

comprising:

applying the adaptively predetermined values of the MV, the MAD or

the block differences to determine the sub-sampling ratio, or to decide a refiner

or a coarser pixel resolution, or to decide the prediction mode of the initial point

of searching or to decide whether to skip block, or to decide whether to early select or to early give up the current macroblock,~~The method of claim 8~~, wherein in the case of the MV or block differences of a macroblock of previous frame is larger than a predetermine threshold value, the MADs of at least two positions of the current frame or the neighboring frame are calculated, and the position with the least MAD is selected as the initial point of the best match macroblock searching.

16.   (Canceled)

17.   (Canceled)

18.   (Canceled)

19.   (Canceled)

20.   (Canceled)

21.   (Canceled)

22. (Canceled)

23. (Canceled)